

IN THE CLAIMS

1. (Currently amended) A CMP abrasive comprising:
a ceria slurry including ceria powder, water and negative-ion-based polymeric compound of 2 to 10 % by weight with respect to the ceria powder; and
a chemical additive having two or more functional groups manufactured by mixing and synthesizing a polymeric molecule and a monomer and then mixing the polymeric molecule and monomer with a solvent.
2. (Cancelled).
3. (Currently amended) A CMP abrasive as defined in claim [[2]] 1, wherein said negative-ion-based polymeric compound is selected from the group consisting of polymethacrylic acid, ammonium polymethacrylate, polycarboxylate and carboxyle-acryl polymer.
- 4-11. (Cancelled)
12. (Currently amended) A method for manufacturing CMP abrasive comprising steps of:
manufacturing providing a ceria slurry including ceria powder, water and negative-ion-based polymeric compound of 2 to 10 % by weight with respect to the ceria powder;
manufacturing a chemical additive having two or more functional groups by mixing and synthesizing a polymeric molecule and a monomer in a reactor and then mixing the polymeric molecule and monomer with a solvent; and
mixing said slurry and said chemical additive.
13. (Original) A method for manufacturing CMP abrasive as defined in claim 12, wherein said step of providing a ceria slurry comprising steps of:
manufacturing ceria by solid-phase synthesis;
mixing said ceria with water;
milling said mixture with a high energy attrition mill;

dispersing said milled resultant with a high pressure dispersion apparatus; and
dispersion stabilizing said dispersed resultant by adding negative-ion-based polymeric compound.

14. (Original) A method for manufacturing CMP abrasive as defined in claim 13, wherein said negative-ion-based polymeric compound is selected from the group consisting of polymethacrylic acid, ammonium polymethacrylate, polycarboxylate, and carboxyle-acryl polymer.

15. (Cancelled).

16. (Original) A method for manufacturing CMP abrasive as defined in claim 13, after said step of dispersion stabilizing, further comprising a step of removing large particles with a filter.

17. (Previously presented) A method for manufacturing CMP abrasive as defined in claim 12, wherein the molecular weight of the polymeric molecule is 2,000 ~ 1,000,000.

18. (Cancelled).

19. (Currently amended) A method for manufacturing CMP abrasive as defined in claim ~~[[18]]~~ 12, wherein said step of adding further solvent causes the synthesized chemical additive to be 0.03 ~ 10% by weight.

20. (Previously presented) A method for manufacturing CMP abrasive as defined in claim 12, wherein in said chemical additive, said polymeric molecule is polyacrylic acid (PAA) or alkyl methacrylate, and said monomer is selected from the group consisting of acrylamide, methacrylamide, ethyl-methacrylamide, vinylpyridine, and vinylpyrrolidone.

21. (Original) A method for manufacturing CMP abrasive as defined in claim 20, wherein the mixing ratio of said slurry to said chemical additive is 1:1.

22. (Previously presented) A CMP abrasive as defined in claim 1, wherein in said chemical additive, said polymeric molecule is polyacrylic acid (PAA) or alkyl methacrylate, and said monomer is selected from the group consisting of acrylamide, methacrylamide, ethyl-methacrylamide, vinylpyridine, and vinylpyrrolidone.

23. (Previously presented) A CMP abrasive as defined in claim 22, wherein mixing ratio of said slurry to said chemical additive is 1:1.

24. (New) A CMP abrasive as defined in claim 1, wherein the ceria slurry includes ceria powder, water and negative-ion-based polymeric compound greater than 2 % by weight with respect to the ceria powder.

25. (New) A CMP abrasive as defined in claim 1, wherein the chemical additive having two or more functional groups is a graft copolymer.